

REMARKS

Claims 1-50 are all the claims pending in the application, with claims 1 and 26 being the only independent claims. Applicant has presented a current claim listing for the convenience of the Examiner. No amendments to the claims are currently submitted.

Figure Cover Sheet

As a preliminary matter, should the Examiner deem the claims of the present application to be allowable, Applicant respectfully requests that Figure 39 be used as the figure for the cover sheet on the issued patent. The Examiner is invited to telephone the undersigned to discuss alternative figures should it be necessary.

Applicant notes further that several references cited in Applicant's IDS were crossed out by the Examiner. Applicant is unsure why the Examiner has taken such action and no explanation has been provided. It is further puzzling since the identical (or nearly identical) IDS has been filed in dozens of other applications filed by the Applicant. In each of those applications the Examiner has signed and acknowledged the IDS, so Applicant is unsure why the Examiner has now chosen not to acknowledge such references. Applicant requests clarification on the refusal to enter the IDS.

As an additional point, foreign patent document B1 was neither acknowledged nor was it crossed out. It is believed that this particular reference was inadvertently overlooked by the Examiner. Appropriate acknowledgment is requested.

The substitute specification filed August 23, 2004, has not been entered since it allegedly contains material not supported by the originally filed specification. Applicant notes initially that the specification referred to is the redlined version of a previously filed substitute

specification, which was filed with the original application papers. Regardless, both the substitute specification and the redlined version find support in the original application papers. For example, support for the identified changes to the specification may be found at paragraph [0043] on the center of page 12 (referring to Figure 39); paragraph [0231] spanning pages 105-106, and Figure 39. Since both the claims and the identified portion of the specification contain the requisite support, Applicant respectfully requests that the substitute specification be entered and the objection be withdrawn.

Claims 1, 2, 4, 7-9, 11-27, 29, 32-34, 32-34, and 36-50 2-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Levine (5,848,164) in view of Okamura. Claims 3, 5, 6, 10, 28, 30-31, and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Levine in view of Okamura, and further in view of Gerzon (5,555,306). Applicant respectfully traverses these rejections, and requests reconsideration and allowance of the pending claims in view of the following arguments.

Rejection under 35 U.S.C. §103(a)

Claim 1 is directed toward a system for enriching timbre of audio signals and recites “a plurality of audio signal delays, wherein each delay of said plurality of audio signal delays receive signal inputs comprising said incoming audio signal and a distinct high resonance positive feedback signal.” Page 3 of the Office Action indicates that the delay line length elements 401 and (501-1) – (501-3) of Levine disclose the just-identified claim elements. Applicant respectfully disagrees.

Audio signal delays

Examining first the general operation of the Levine system, it is noted that Levine discloses an MPEG Analysis Filter Bank 138 splitting an incoming audio signal 140 into thirty-two separate and distinct frequency-band-partitioned subband signals (116-1 through 116-32), and separately directing each of these (thirty-two) separate signals to an associated separate customized effects filter (128-1 through 128-32). Each of the thirty-two subband signals (116-1 through 116-32) has entirely different frequency content from the others. This point is made explicit by Levine:

“The analysis filter bank is responsible for compressing, encoding and splitting the fullband fullrate audio input signal into subbands of critically sampled compressed audio data 116. Each subband carries critically sampled data for a distinct frequency range, with the 32 subbands covering the frequency range 0 to 22.05 kHz. (i.e., each subband carries data for a frequency range of about 689 Hz.). If other sampling frequencies F_s are used, the frequency range of each subband will be $F_s/32$.” (Levine col.3 lines 40-49) (emphasis added).

The Action alleges that the claimed “audio signal delays” is met by Levine’s elements 401 (Figure 4) and 501-1 through 501-3 (Figure 5). These elements, and the rest of the associated configurations depicted in Figures 4 and 5, are in fact the thirty-two separate customized effects filters (128-1 through 128-32) (Figure 2). Thus, each of the Levine delays do not receive the incoming audio signal 140, but rather receive a distinct separate processed signal (116-1 through 116-32), each having an entirely different frequency. Figure 2 of Levine clearly shows this aspect.

The distinction is that claim 1 requires that “each delay” receive the same incoming audio signal, whereas Levine relates to receiving different signals (subbands 116-1 through 116-32) at each delay. Accordingly, Levine fails to teach or suggest the “plurality of audio signal delays” feature of claim 1.

Applicant recognizes that claim 1 does not explicitly recite the phrase “same incoming audio signal.” However, this aspect is inherent in that claim 1 recites the phrase “said incoming audio signal,” which is a signal (i.e., the same signal) that is received at each of the plurality of audio signal delays.

Selectable delay time

Claim 1 further recites “wherein each delay . . . a distinct selectable delay time corresponding to a period of a desired resonant frequency.” The portion of Levine relied upon by the Office Action is as follows:

“As shown in FIGS. 3, 4, 5, and 6A-6C, the parameters that can be customized for each of the selected prototype subband effects filter include a delay line length 301, 401, 501-1,2,3, 601-1,2, one or more feedback scalars 302, 402, and one or more feedforward scalars 403, 502, 602. For example, if the sound system designer wants to create a customized subband flange effect, the designer executes the filter customization procedure and selects the prototype subband flange effects filter shown in FIG. 4. The sound system designer can then adjust the feedforward gain scalar 403, the feedback gain scalar 402, and the delay length 401 parameters to produce a customized flange subband audio effect filter as desired by the designer. The resultant customized subband effects filter can be saved in memory of the audio effects processing system 100. One or more customized subband effects filters can be grouped together to form a user defined group of customized subband effects filters 134 for processing the whole range of compressed audio subband data.” (Col. 4, lines 13-30) (emphasis added).

The cited passage relates to (a) selecting a filter configuration (i.e., a choice of the configuration of Figure 4 rather than that of Figure 3); or (b) adjusting of the delay line length to produce a customized flange subband audio effect filter as desired by a designer. Regardless of the path taken, Levine provides a mechanism to produce a “customized flange subband audio effect filter.”

This is not what is recited in claim 1, which instead requires a “distinct selectable delay time corresponding to a period of a desired resonant frequency.” Indeed, nowhere does Levine teach or even mention the words or concepts of “resonance” and “resonant frequency.”

Distinct selectable delay time

A further difference relates to the “distinct selectable delay time” feature of claim 1. Levine has no such teaching, but instead sets out the notion of providing delays for each subband that are identical (Levine col. 5 lines 30-60). For instance, Applicant assumes *arguendo* that Levine does teach a selectable delay time. Even if this were correct, such a system would provide delays having identical selectable delay times. If delay times are identical (such as they are in Levine) then they cannot therefore be “distinct” as called for in claim 1. Thus, the “distinct selectable delay time” feature of claim 1 is not taught or suggested by Levine.

Distortion

Claim 1 further recites “after said combined signal reaches a predetermined threshold, distortion is introduced into said combined signal.” Page 4 of the Action indicated that the distortion with equalizer effect (DIST+EQ) of Okamura discloses the identified feature. The portion of Okamura is reproduced as follows:

“As shown in FIGS. 24 and 25, only three kinds of sound effects containing a distortion-with-equalizer effect (represented by “DIST+EQ”) and a delay effect (represented by “DELAY”) can be selected for the sound effects EF3 and EF4 within the eleven kinds of sound effects preset to the effect program memory 22.” (Col. 22, lines 29-34) (emphasis added).

Applicant assumes *arguendo* that the DIST+EQ function of Okamura teaches the “distortion” feature of claim 1. Even if this were true, claim 1 is distinguishable since Okamura does not provide the requisite teaching as to the circumstances relating to introducing distortion (DIST+EQ) into the combined signal. More specifically, Okamura does not teach that distortion (DIST+EQ) is introduced into the combined signal “after said combined signal reaches a predetermined threshold,” as required by claim 1. Applicant further notes that the Office Action does not specifically refer to the particular portion of Okamura which purportedly provides such teachings, and Applicant has thoroughly reviewed the Okamura reference and is unable to find any discussion relating to the “after said combined signal reaches a predetermined threshold” feature. In the event that the rejection is maintained, Applicant respectfully requests that the Examiner identify the portion of Okamura which purportedly provides the “after said combined signal reaches a predetermined threshold” feature.

In summary, Applicant has demonstrated above that Levine does not teach or suggest at least two features recited in claim 1. Applicant has further demonstrated that Okamura does not teach or suggest at least one feature that has been asserted in the Office Action. Applicant further submits that none of the other references supply any of the stated deficiencies of Levine and Okamura. Therefore, for the reasons presented above, even if one skilled in the art were to combine the teachings of Levine and Okamura in the manner asserted, claim 1 would be patentable since all of the claim elements are not taught or reasonably suggested.

Independent claim 26 includes language similar to that of claim 1, and thus, is believed to be patentable for reasons similar to those discussed with regard to claim 1. The rejected dependent claims are believed to be patentable at least by virtue of their respective dependence on the patentable independent claims.

CONCLUSION

In light of the above remarks, Applicant submits that the present Response places all claims of the present application in condition for allowance. Reconsideration of the application is requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney (858) 587-7652 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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